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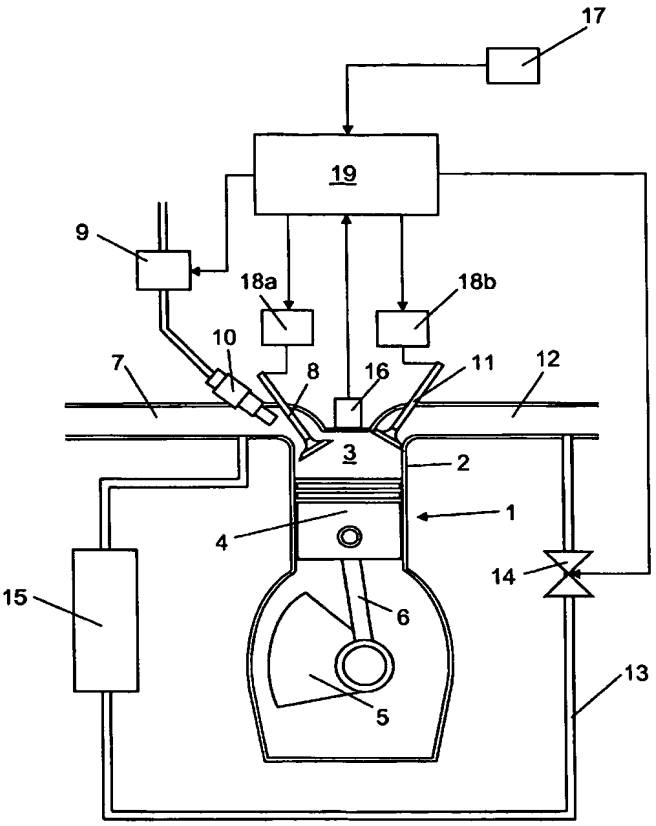
(54) Title: ARRANGEMENT AND METHOD FOR CONTROLLING A COMBUSTION ENGINE



(57) Abstract: The present invention relates to an arrangement and a method for controlling a combustion engine (1), e.g. of the type called HCCI engine. The arrangement comprises a control unit (19) adapted to controlling the self-ignition of the fuel mixture towards an optimum crankshaft angel (cad_{iopt}) within a load range (L_{tot}). Said load range (Ltot) can be divided into at least two subranges (L_I, L_{II}) and the control unit (19) is adapted to controlling the self-ignition of the fuel mixture towards an optimum crankshaft angle (cad_{iopt}) within a first subrange (L_I) by means of a strategy (I) which entails a variable amount of hot exhaust gases being supplied to or retained in the combustion chamber (3), and within a second subrange (L_{II}) by means of another strategy (II) which entails the effective compression ratio (c) in the cylinder (2) being varied.

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